

IN THE SPECIFICATION

Please amend Paragraph [4] of the specification as follows:

[4] The output sample of a FIR filter is a convolution summation of input samples and the impulse response of the filter. The output, $y(n)$ of a causal FIR filter can be written as:

$$y(n) = \sum_{k=0}^{H-1} h(k) * x(n-k)$$

Where:

H is the total number of filter coefficients and $n = 0, 1, 2, 3 \dots$ for different values of n , the output sample of the filter can be obtained;

$h(k)$ is the impulse response of the filter. Filter coefficients are determined for various values of k . The value of k can never be negative for a causal system; and

$x(m)$ is the input sample, $m = n - k$ as shown in the equation above. The value of m can never be negative for a causal system.

As stated by the above equation, the coefficients are multiplied with the appropriate input samples and summed to obtain the output sample. ~~The coefficients are multiplied with the appropriate input samples and then (i.e., accumulated)~~ for obtaining a particular output sample. For N number of input samples and H number of coefficients, the required number of multiplications for a given output sample is H. The saturation point occurs at the Hth output sample as shown in FIGURE 1. The H number of multiplications are necessarily required if all the H coefficients are unique.